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**GROUP 3600**

**JAN HERMAN ZICHA, P.E.**  
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**FAX MESSAGE**

(Number of pages including this one 28)

To: Mr. Joseph Morano

Fax No.: (703) 746 3047

From: Jan H. Zicha, P.E.

Fax No.: (301) 322 5233

Date: November 24, 2003

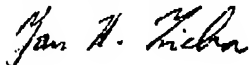
Subject: **Petition to Withdraw Holding of Abandonment**

Application No.: 10/050,937, Group Art Unit: 3617, Filed: 01/22/2002  
Examiner: Frantz Jules, Title: Internally Resilient Tie for Railway Track

Dear Mr. Morano,

Thank you for your advice provided me during our telephone conversation on November 21.  
Please find enclosed my Petition to Withdraw Holding of Abandonment.

Sincerely Yours,



Jan H. Zicha



PTO/SB/21 (03-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	10 / 050,937
	Filing Date	JANUARY 22, 2002
	First Named Inventor	JAN H. ZICHA
	Art Unit	3617
	Examiner Name	FRANTZ F. JULES
Total Number of Pages in This Submission	Attorney Docket Number	

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form	<input checked="" type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to a Technology Center (TC)
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input checked="" type="checkbox"/> CD, Number of CD(s) 1	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application	Remarks	
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	JAN HERMAN ZICHA
Signature	Jan H. Zicha
Date	APRIL 11, 2003

## CERTIFICATE OF TRANSMISSION/MAILING

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Mr. Frantz F. Jules

Examiner

United States Patent and Trademark Office

Washington DC 20231

Date: April 11, 2003

Subject: Application No. 10/050,937, Internally Resilient Tie for Railway Track

Dear Mr. Jules,

Enclosed are corrected Specification, Drawings and Supplemental Declaration of the patent application No. 10/050,937 in reply to Office Action dated January 12, 2003.

The deficiencies described on pages 2 thru 11, top page, of your correspondence dated January 2003 have been corrected and supplemental information included in the revised version. The functional aspects of the invention were moved to the Background and Brief Description of Invention sections of the application. The dynamic aspects of mechanical action of the internally resilient tie mentioned in the original application are expanded in its enclosed revision because they are essential to the invention and constitute essential improvement over the present state of art. The revised text of application is restricted to ballasted track because its ballastless form constitutes prior art.

The deficiencies listed on pages 2 through 11 top of your correspondence dated January 12, 2003, have been corrected. The statements concerning the rejections based on stated

instances of non-compliance with the law 35 USC § 103 and the rule M.P.E.P Section 2142 are opposed on the following grounds:

1. The invention possesses improved properties "not expected by prior art" in compliance with M.P.E.P. Section 2142. While similarly looking devices that incorporate blocks inside ties were patented previously, they were intended to add only constant and static elasticity to the track supporting system. In order to make these devices usable in a contemporary ballasted track, they must reflect dynamic properties of track/train interaction and be adjustable to compensate for variations within the subgrade and subsoils of the track as described in the revised Background of the Invention. Proper dimensioning and selection of materials for internally resilient ties to be used successfully in ballasted track require advanced design process that is not a part of prior art and is not obvious to one of ordinary skill in the art. As evidence, the report DTFR 53-00-P-00377, Upgrading Track and Roadbed for High Speed Rail Operations, authored by myself, submitted to Federal Railroad Administration on January 30, 2001, after the original submittal of application for provisional patent titled Resilient Ties for Railway Track, is enclosed in electronic form on a CD disk. This report is currently under review at Voelpe Center and has not been published to date. The report includes theory and examples of analyses descriptive of the general dynamic theory of railway track and its relevant special applications, none of which has been developed as a part of work on the referred federally sponsored research report but existed previously.

2. Patentability over Sonnevile and Vanohacker

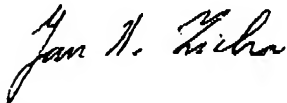
Sonneville's Low Vibration Track is properly dynamically designed. It has several times higher longevity than any other type of track and requires very little maintenance. However, it is restricted to ballastless track while it is never used and cannot be used in a ballasted track as described in the revised Background of the Invention. Vanohacker's rail fastener is very different, does not introduce the desirable mass of sufficient magnitude into the dynamic track train interaction diagram which is depicted in added Fig.6, and closely resembles previous fasteners broadly utilized in ballastless track applications in Holland, Germany, Austria, Czech Republic, and Philadelphia in the USA for last four decades. Installations of Vanohacker's fasteners in ballasted track are unknown. Experience with these fasteners, and the demands of contemporary railway operations reflected in specifications of successful railroads, such as specifications of Euro-Tunnel, 1989, indicate that the elastomer utilized by Vanohacker would be either too soft to endure high frequency vibrations that reduce longevity of such elastomers in a railway track, or too stiff to significantly reduce the spread of low frequency vibrations that are damaging to the track and that are also environmentally objectionable. Dampening of this kind of devices is usually negligible in comparison with the extraordinary dampening capacity of Sonneville's LVT system which is a key parameter responsible for the LVT's success. In a contrary, intense maintenance of fasteners similar to the one of Vanohacker is a daily occurrence inherent to prior art. It is not clear how a mixture of these two dissimilar devices would make the concept of internally resilient ties obvious.

3. Mc Calum's device is interesting from its historical point of view. However, its block is too small to offer sufficient reduction of kinetic energy before it reaches its vertical elastic components while no lateral resilience exists. In the absence of a stiff railpad, its elastic members will be likely destroyed by high frequency vibrations from contemporary trains. Lateral dynamic activities will wear the vertical interfaces in a short time so that gauge of the rail would not be maintainable. The similarity and intended purpose of Mc Calum's device are far remote to the ones of internally resilient ties. Mc Calum's device is unique and never seen in railroad practice. It is hardly known to "one of ordinary skill in the art" to view it in a connection with Sonnevile's and Vonahacker's devices to make the concept of internally resilient ties obvious.
4. J. McCourt's device includes wooden blocks that are too small and light to make a difference in the dynamic track/train interaction diagram. The blocks cannot be enlarged due to the utilized round rail fasteners that also restrict the movement of blocks that is needed for absorption of kinetic energy of vibrations should this device was dynamically loaded by contemporary trains. In the absence of an elastomeric rail pad, this device offers mere substitution of rail pads by wooden blocks. It is apparently a long time forgotten predecessor of standard rail pads. Its similarity and intended purpose are far remote to the ones of internally resilient ties. J. McCourt's device is unique and never seen in railroad practice. It is hardly

known to "one of ordinary skill in the art" to view it in a connection with Sonnevile's LVT track to make the concept of internally resilient ties obvious.

5. The construction of a new high speed rail line in Germany between Frankfurt and Koln am Rein, as well as upgrades of existing lines for high speed operations worldwide involve costly replacements of soils in ten to fifteen feet depths, or construction of embankments in otherwise good quality soil areas to ensure dynamic uniformity of the subgrade and subsoils of the track foundation wherever the underlaying soils vary. Attempts to achieve uniformity of the overall dynamic response of ballasted track at rail pads have been made and did not work. Should the concept of internally resilient ties was obvious, it would be already in use saving time and capital investment costs on high speed rail projects.

Sincerely Yours,



Jan H. Zicha, P.E.



United States Patent and Trademark Office  
Attention: Office of Petitions  
Assistant Commissioner for Patents  
Box DAC  
Washington DC 20231

Date: November 24, 2003

**Subject: Petition to Withdraw Holding of Abandonment**

First named inventor: Jan H. Zicha

Application No.: 10/050,937

Group Art Unit: 3617

Filed: 01/22/2002

Examiner: Frantz Jules

Title: Internally Resilient Tie for Railway Track

Gentlemen,

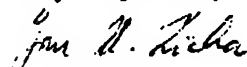
The above-identified application became abandoned on September 5, 2003 due to failure to respond to the Office Action dated January 12, 2003. However, my reply was hand-delivered to the United States Patent and Trademark Office on April 11, 2003, and did not apparently reach the Examiner. Please find enclosed the Transmittal Form stamped by the United States Patent and Trademark Office on that day. Also included are the following documents:

1. Re-submittal Letter Dated September 18, 2003 and Certified Mail Receipt.
2. Reply letter dated April 11, 2003. Five pages.
3. Supplemental Declaration for Utility or Design Patent Application (37 CFR 1.63).  
Two pages.
4. Corrected Specification. Twelve pages.
5. Corrected Drawings. Six pages.

The theoretical reference was submitted on compact discs on April 11, and again on September 18, 2003. Another copy is available per your request.

Since the submittal of the above documents was made in a timely manner, the holding of abandonment due to the failure to respond to an office action should be withdrawn.

Very Respectfully,

  
Jan H. Zicha